

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 797 949 A2

(12)

## EUROPEAN PATENT APPLICATION

(43) Date of publication:  
01.10.1997 Bulletin 1997/40

(51) Int Cl.<sup>6</sup>: A47L 15/50

(21) Application number: 97830134.9

(22) Date of filing: 24.03.1997

(84) Designated Contracting States:  
DE ES FR GB SE

(72) Inventor: Bertazzoni, Roberto  
Guastalla (Reggio Emilia) (IT)

(30) Priority: 27.03.1996 IT MI960602

(74) Representative: Adorno, Silvano et al  
c/o SOCIETA' ITALIANA BREVETTI S.p.A.  
Via Carducci, 8  
20123 Milano (IT)

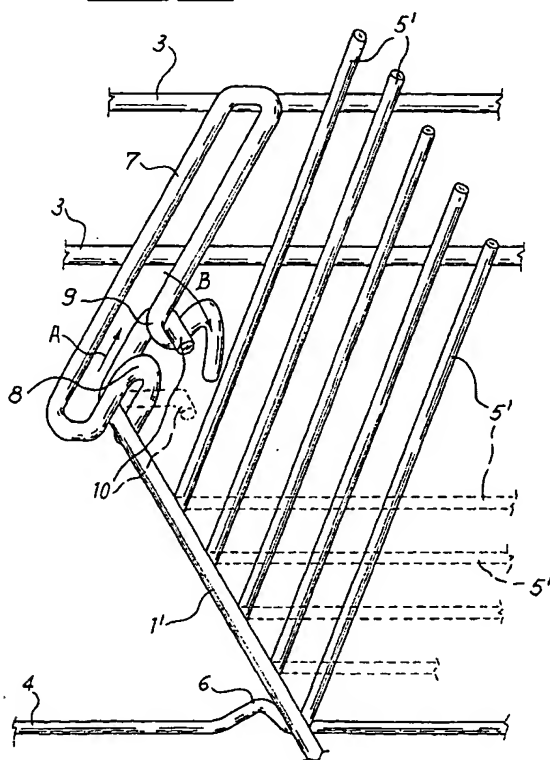
(71) Applicant: SMEG S.p.A.  
Guastalla (Reggio Emilia) (IT)

## (54) Dishwasher basket with foldable plate-holding racks

(57) A dishwasher basket made from steel wire (1, 2, 3, 4, 5) includes at least two rows of vertical supporting rods (5') acting as a plate-holding rack, the rods (5') being connected through a horizontal rod (1') rotatable about its axis and provided with an end stop (2') suitable to lock its rotation when the rack is in the vertical position, said connecting rod (1') being rotatable so as to take the rods (5') to a horizontal position, the movement

of the end stop (2') being defined by a shaped locking member (7) also made from steel wire and integrated in the basket structure. The stop (2') has the shape of a C facing towards the inside of the basket and the locking member (7) has two vertical opposite U-shaped loops, a lower loop (8) open downwards and an upper loop (9) open upwards, whose mutual distance and depth are such as to allow the locking and unlocking of the rack through a roto-translational movement of the stop (2').

Fig. 2



## Description

The present invention relates to dishwasher baskets, and in particular to a dishwasher basket with foldable plate-holding racks.

It is known that dishwasher baskets are made from lengths of steel wire welded together and covered by a plastic coating, and the basket structure may be adapted to different functions. At least one of the dishwasher baskets, usually the lower basket, includes one or more rows of substantially vertical supporting rods intended to hold and space apart the plates. This structure is effective and efficient for washing the plates, but it makes difficult to use the basket for washing pots, pans and the like.

In order to prevent this drawback, the plate-holding supports may be connected together so as to form a removable rack. Once the rack has been removed, the basket bottom is an empty plane suitable for placing pots thereon. However, this solution has the drawback that when the rack (which is quite bulky) is not being used it must be stored somewhere outside the dishwasher.

A second solution is to connect a row of vertical plate-holding supports by means of a horizontal rod which can rotate about its axis. This connecting rod has at least one end stop allowing to lock its rotation when the supports are in the vertical position. When the stop is disengaged through a roto-translational movement, the rod can rotate to take the supports to a substantially horizontal position so as to obtain an empty plane without removing the rack from the basket.

Also this second solution yet has some drawbacks. In fact, the movement of the stop disposed at the end of the connecting rod is defined by a "track" formed in a plastic insert which is mounted on the metallic structure of the basket. This implies the manufacturing of a separate member to be subsequently mounted on the basket, thus resulting in an increase in cost and labour. Moreover, said insert may come off the basket or it may become a site of accumulation of dirt which makes difficult the movement of the stop.

Therefore the object of the present invention is to provide an improved basket suitable to overcome the above-mentioned drawbacks.

This object is achieved by means of a basket having the characteristics disclosed in claim 1.

The main advantage of the improved basket according to the present invention is that the stop-guiding track is also made from steel wire and integrated in the basket structure. This allows a reduction of the manufacturing and assembly costs, and furthermore the risk of the track coming off the basket is eliminated.

A further advantage of the present structure is that the track can not become a repository of dirt, thus assuring a greater reliability.

These and other advantages and characteristics of the basket according to the present invention will be

clear to those skilled in the art from the following detailed description of an embodiment thereof, with reference to the annexed drawings wherein:

5 Fig.1 is a schematic perspective view of a basket according to the present invention with the plate-holding rack folded on the horizontal plane; and Fig.2 is an enlarged detail of the basket of fig.1, showing the movement for disengaging the stop from the locked vertical position.

10 Referring to fig. 1, there is shown a dishwasher basket formed by a structure of steel wire as previously mentioned. The right portion of said basket structure has the conventional scheme with a pair of horizontal longitudinal wires 1 having vertical ends 2 welded to wires 3 which form the peripheral edge of the basket. These longitudinal wires 1 are supported by transverse wires 4 of similar configuration, and carry two parallel rows of vertical rods 5 acting as plate-holding supports so as to form a plate-holding rack.

15 On the contrary, the left portion of the basket is provided with foldable racks. These racks consist of supporting rods 5' welded to rotatable connecting rods 1' having C-shaped ends 2 facing inwards. At the positions where the connecting rods 1' rest on the transverse wires 4, the latter have stiffening projections 6 to the right and/or to the left of said rods 1'.

20 As better seen in the enlarged detail of fig.2, each end 2' acts as a stop for the relevant connecting rod 1' by engaging a shaped locking member 7. Said member 7 is integrated in the basket structure, since it is made from steel wire and welded to the peripheral wires 3. The shape which defines the guiding track for stop 2' consists of two vertical opposite U-shaped loops, namely a lower loop 8 open downwards and an upper loop 9 open upwards.

25 The mutual distance and the depth of the two loops 8 and 9 are such that in the situation of the plate-holding rack locked in the vertical position, as illustrated with continuous lines, a horizontal end portion 10 of stop 2' abuts on the bottom of the upper loop 9 while rod 1' passes through the lower loop 8. In this way, two points of reaction are provided and any force applied to the supporting rods 5' does not cause a rotation of the plate-holding rack.

30 In order to fold the plate-holding rack to a substantially horizontal position, as shown with dotted lines, it is sufficient to disengage stop 2' by lifting it (arrow A) until the end portion 10 comes out from loop 9 and then rotate it clockwise (arrow B). It is clear that the lower loop 8 must be sufficiently deep as to allow the disengagement of stop 2' from the upper loop 9 before rod 1' reaches the bottom of the lower loop 8.

35 Obviously, the movement to take back the rack from the horizontal position of fig.1 to the vertical position of fig.2 is the reverse of the one described hereinabove.

It is clear that the above-described and illustrated

embodiment of the improved basket according to the invention is just an example susceptible of various modifications. In particular, the exact shape of the locking member 7 and of stop 2' may be changed according to the needs, as long as they remain integrated in the basket structure. 5

## Claims

1. Dishwasher basket made from steel wire (1, 2, 3, 4, 5) and including at least two rows of substantially vertical supporting rods (5') acting as a plate-holding rack, the rods (5') of each row being connected through a horizontal rod (1') rotatable about its axis and provided with at least one end stop (2') suitable to lock its rotation when said rods (5') are in the substantially vertical position, said connecting rod (1') being rotatable so as to take said rods (5') to a substantially horizontal position, characterized in that the movement of said end stop (2') is defined by a shaped locking member (7) also made from steel wire and integrated in the basket structure. 10 15 20
2. Dishwasher basket according to claim 1, characterized in that the stop (2') has the shape of a C facing towards the inside of the basket and the locking member (7) has two vertical opposite U-shaped loops, a lower loop (8) open downwards and an upper loop (9) open upwards, the mutual distance and the depth of the two loops (8, 9) being such that when the supporting rods (5') are locked in the vertical position a horizontal end portion (10) of the stop (2') abuts on the bottom of the upper loop (9) while the connecting rod (1') passes through the lower loop (8), the latter being sufficiently deep as to allow the disengagement of the stop (2') from the upper loop (9) before the connecting rod (1') reaches the bottom of the lower loop (8). 25 30 35 40
3. Dishwasher basket according to claim 1 or 2, characterized in that each connecting rod (1') has two end stops (2') engaging in corresponding locking members (7). 45
4. Dishwasher basket according to claim 1 or 2 or 3, characterized in that it includes wires (4) substantially perpendicular to the connecting rods (1') and having, at the positions where said connecting rods (1') rest on said wires (4), stiffening projections (6) to the right and/or to the left of said rods (1'). 50

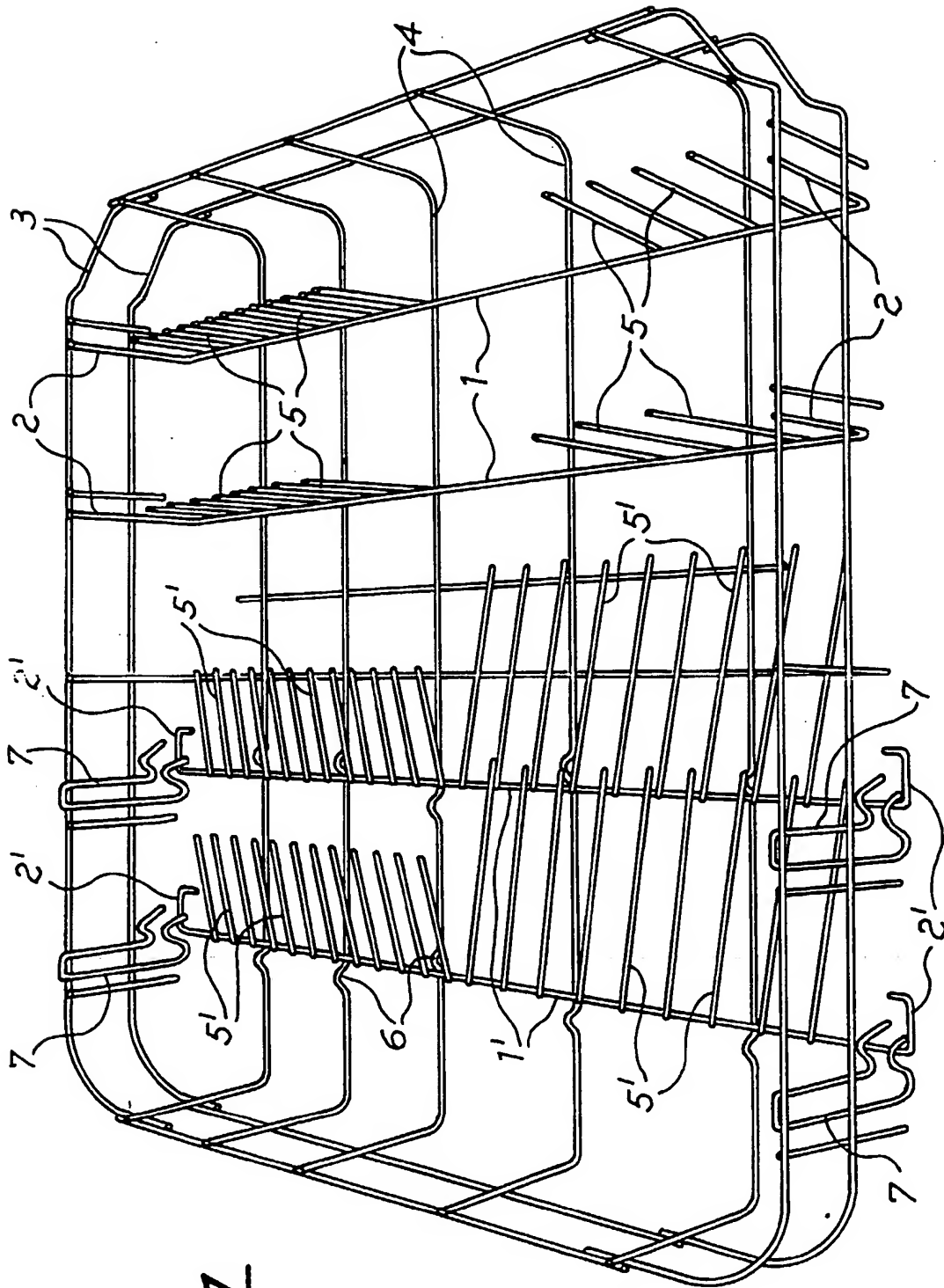


Fig. 1

***Fig. 2***